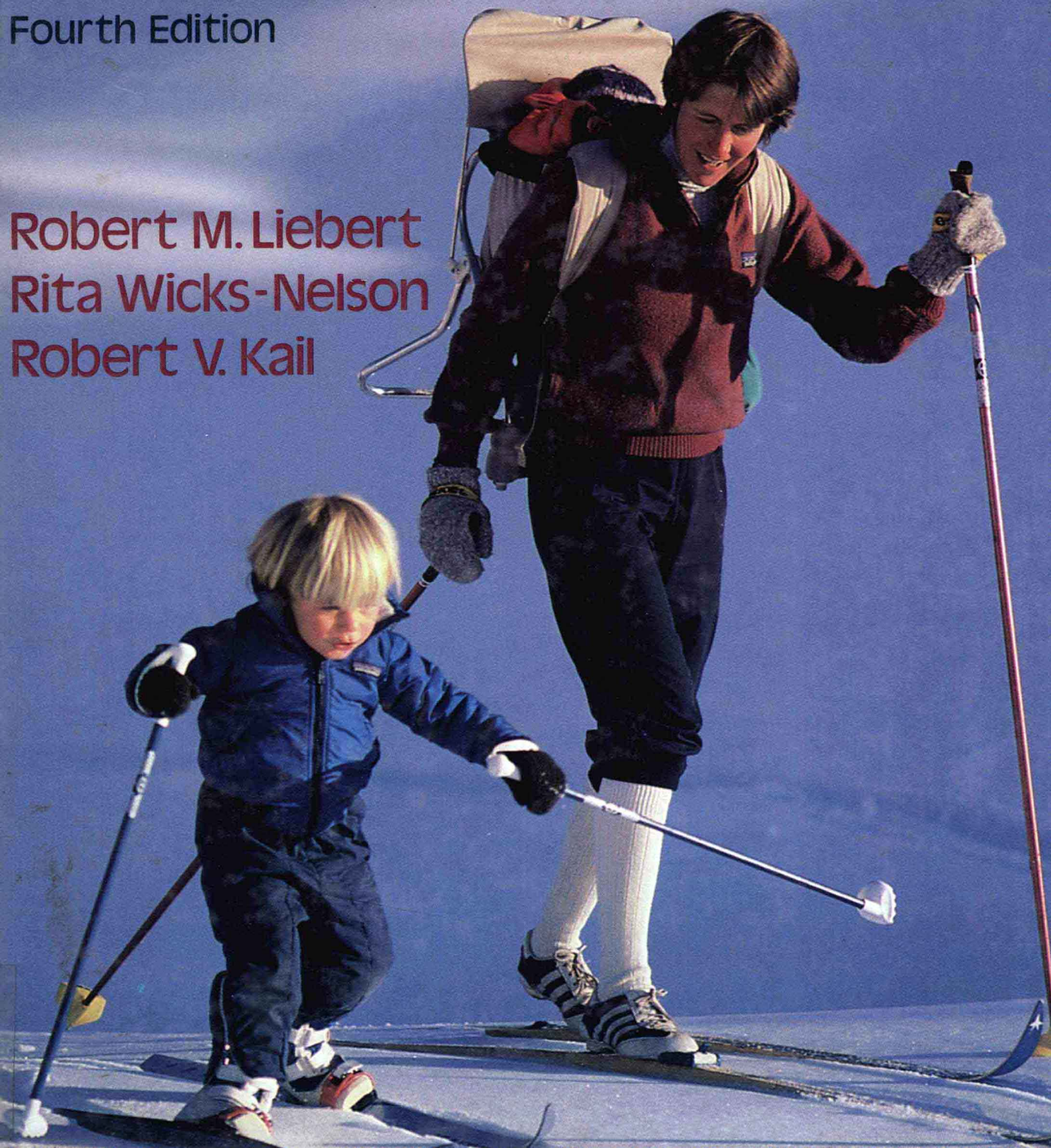


DEVELOPMENTAL PSYCHOLOGY

Fourth Edition

Robert M. Liebert
Rita Wicks-Nelson
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PREFACE

As in the preceding editions, our aim in this fourth edition is to present a broad but selective introduction to developmental psychology as a branch of science that is at once basic and applied. We continue to believe that there is a fundamental continuity among all developmental processes, and that the many practical applications of the field are best appreciated in the light of the theory and research that spawned them.

In accord with this belief, Chapter 1 begins with a brief overview of the history of our field as a science and includes an introduction to the theories and research methods that have guided its development. In Chapter 2 we turn to the building blocks of human development, beginning with evolutionary and genetic processes. Chapter 3 brings us to the individual's physical development, from infancy through adolescence, and includes consideration of the wide array of factors that influence and are influenced by physical growth and change. Chapter 4 continues this discussion by turning to early experience and behavior, including basic perceptual and learning processes and an extensive discussion of the roots of social and emotional development. Chapter 5 turns to language, which is presented as a cornerstone for all social interaction. Chapters 6 and 7 extend our discussion to theory and research in cognitive development, beginning with a broad discussion of both Piaget's theory and various neo-Piagetian work and then going on to newer information-processing approaches. Chapter 8 takes us to intelligence, including both traditional measurement issues and a discussion of how intelligence develops and changes over the entire lifespan. In this chapter we also introduce newer perspectives on intelligence, most notably Gardner's theory of multiple intelligences.

The next four chapters are devoted to social development, beginning in Chapter 9 with a discussion of processes and factors which influence socialization. Chapter 10 discusses self-control, achievement, and moral values, and Chapter 11 discusses altruism, aggression, and friendship. Chapter 12 is devoted entirely to sex typing, emphasizing the manner in which it influences all aspects of cognitive and social development.

Chapter 13 deals with how development can go awry; it considers the full range of behavioral difficulties that can arise in childhood. Chapter 14 provides an overview of adolescence and adulthood, culminating in a discussion of the end of life.

This sequence of chapters is generally similar to that of the previous editions in considering biological, cognitive, and social factors. However, we have no longer drawn a hard distinction among these three closely related aspects of development. Instead, we have given increasing attention to their interplay throughout the text. This change of approach has led to a certain amount of reorganization. For example, early experience, previously not discussed until Chapter 11, now appears in Chapter 4, where it is presented as one of the essential building blocks for later development. Similarly, our discussion of evolutionary and genetic processes, previously discussed in Chapter 5, has been moved forward to Chapter 2. Finally, our discussion of learning processes, previously treated in relative isolation, has now been distributed throughout the text to show how learning is involved in various aspects of development as they are discussed.

Another major change in the book, in keeping with changes in the field, is an increased emphasis on cognitive processes. Thus, we now devote two chapters to cognitive development and also emphasize the role of cognition in all aspects of social development.

Those familiar with previous editions will also note that our Road to Maturity section has been consolidated into a single chapter, while discussion of many aspects of adolescent and adult development have been added to the various topical chapters as natural extensions of how the relevant processes and changes occur in children. This reorganization is in keeping with the increased trend within the field to view development as an integrated, lifelong process.

As in previous editions, we have continually tried to stress the importance of solid research in advancing our knowledge and understanding. Much of the research we discuss is theory-guided, and thus we have emphasized the interplay of theory and research. At the same time, we have taken every occasion to present the practical side of developmental psychology, both in the text itself and in the various Close-ups which are scattered throughout the book.

We owe a debt of thanks to many people for helping make this edition become a reality. John Isley and Sylvia Moore of Prentice-Hall patiently dealt with us as we moved slowly from draft to draft, and Jeanine Ciliotta provided enormous help in shaping the writing style and tone which we hoped to achieve in this edition. Valuable input on various matters was also provided by Rita Baker-Walker, Thomas J. Berndt, Laurence B. Leonard, and Molly Moore. Finally we thank the staff of the Vining Library, West Virginia Institute of Technology, for considerable assistance.

Robert M. Liebert

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WHAT IS DEVELOPMENTAL PSYCHOLOGY?

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SUMMARY

At conception we begin as a tiny cell, too small to be seen except with a microscope. Gradually each of us is transformed into a baby, a child, an adolescent, and finally a mature adult. This astonishing development proceeds along several parallel tracks. One is physical and involves the growth of bone, muscle, nervous system, and bodily organs. At the same time there is continuing mental growth, shown by an increasing ability to solve problems and deal with ideas. Social growth also occurs continuously, as we become better able to deal with others and adjust to the needs and demands of the world around us. Because physical, mental, and social development proceed side by side, we recognize categories of development (infant, toddler, child, adolescent, adult). From toddlerhood through childhood, adolescence, and adulthood, this remarkable pattern of growth and change goes on continually.

Developmental psychology is the branch of psychology concerned with when and how we change over time. Developmental psychologists study people of all ages in an attempt to understand when and how physical, mental, and social functions change and interact throughout the entire life span. Simply put, it is a very broad field.

Surprisingly, recognition of the fact that we all develop continually is quite recent. The idea of childhood as a separate and distinct period did not really emerge until the last century, and it is only in the past 20 years or so that psychologists have looked beyond adolescence to study development as a set of interrelated processes and events occurring over the entire life span.

CHANGING PORTRAITS OF CHILDHOOD

In medieval times, children were viewed as “ill formed adults at the edges of society” (Kessen, 1965), a notion reflected in the art of the time (see Figure 1–1). The seventeenth and eighteenth centuries brought the idea of childhood as a special period in which youngsters had unique psychological, educational, and physical needs. But how to understand these needs and cope with them remained a controversial subject.

The clash is captured in the differing views of philosophers John Locke (1632–1704) and Jean Jacques Rousseau (1712–1778). Locke asserted that at birth the human infant is a *tabula rasa*, or “blank slate,” and that experience, transmitted through the senses, molds each human into a unique individual. Locke burdened parents with the responsibility of teaching their children self-control and rationality, and of planning their environment and experiences from the moment of birth. Rousseau saw the newborn human as a “noble savage,” endowed with an innate sense of justice and morality. He believed that all virtues are inborn and develop naturally. For Rousseau, human nobility was imperiled by an interfering society.

By the middle of the nineteenth century there was a new approach to understanding childhood: Speculation about the child’s “nature” was replaced by efforts to record and to study actual behavior and development. This was the dawn of contemporary developmental psychology.

- 3 The impetus for the new science came from many sources. Evolutionary biology and its founder, Charles Darwin (1809–1892), played an important role in generating the nineteenth century’s interest in development of all sorts, but developmental psychology had a founder of its own. G. Stanley Hall focused Darwin’s general viewpoint in a particular way. Hall administered questionnaires to large groups of children of different ages in order to discover age trends in children’s beliefs, knowledge, and feelings as they grew older. Hall, who was founder and first president of the American Psychological Association (APA), also turned to children for the study of such topics as perception, memory, and learning. Meanwhile, Alfred Binet had begun to distinguish between intellectually normal and subnormal children in France. Sigmund Freud had startled the world with his suggestion that the experiences of early childhood seemed to account for patterns of behavior in adulthood. There was clearly much to be learned.

By the 1920s developmental psychology had become the source of solutions to practical problems. John Watson, the founder of behaviorism, had begun to write and lecture on child-rearing practices. Clinics were established for the purpose of assessing children and advising parents. This interest led to an enormous research investment in child development. Short-term studies were set up in numerous university-based nursery schools, and long-range (or longitudinal) projects were established at such places as Berkeley and Yale in the United States and in several European cities.

Childhood was now seen as the psychological as well as the physical precursor of adulthood. But many years passed before psychologists realized that development is a continuous process which covers the entire human life span.

RECURRING ISSUES IN DEVELOPMENTAL PSYCHOLOGY

In their search for underlying causes and explanations, modern developmental psychologists face two issues that seem to arise regardless of the aspect of development being studied. They are heredity versus environment, and continuity versus discontinuity.

Biological versus Environmental Determination

We all know that people differ in striking and important ways. Some individuals are very outgoing, others are more reserved, and a few are timid. Likewise, some people are highly creative; others are less imaginative and may prefer more conventional ways of thinking and acting. These examples illustrate the enormous range of individual differences we see in the people around us. And they raise the question of whether each of us is born with our particular characteristics or whether we are more a product of the environments in which we were brought up. The problem has been called the *heredity-environment* issue, the *nature-nurture* controversy, and many other names as well. For developmental psychologists, it has also been a constant and far from simple question. How



(a)



(b)



(c)

FIGURE 1-1

Portraits of childhood: (a) Erasmus Quellin's "Portrait of a Boy with a Dog," painted in the seventeenth century, shows that little distinction was made between childhood and adulthood, for the child is depicted simply as a miniature adult. (b) "Ralph Izard," by Jeremiah Theuss (1753), gives a first hint of childhood. The trend sharpens in "The Wilson Children" (c), by an unknown artist circa 1860, and "A Sunflower for Teacher" (d), by Winslow Homer (1875). (e) Robert Henri's "Forces of

(d)



(e)



(f)

Peace" is definitely a little girl in the modern sense. But only in this Norman Rockwell painting (f) of two boys do we see the mood of childhood as it has recently emerged. (a) From the Museum of Fine Arts, Antwerp, SCALA New York/Florence; (b) Private collection, photograph by Jerome Drown; (d) The Georgia Museum of Art, The University of Georgia; (e) © Sotheby Parke-Bernet, Agent; Editorial Photocolor Archives; (f) Rockwell illustration reproduced by permission of Editorial Archives, Inc.

much of the individual's behavior is contributed by his or her biological and genetic makeup? How much by social and environmental influences?

As Anastasi (1958) noted in a classic analysis, these questions overlook the fact that heredity and environment must *interact* in order to produce behavior. Because both make an absolutely necessary contribution to behavior, the idea that these factors simply differ in quantity or importance, like two bank accounts, is not likely to get us very far. Instead, we ultimately must ask *how* biological and environmental influences combine to result in various kinds of behavior. Much of this book is devoted to explaining how these two forces interact.

Continuity versus Discontinuity in Development

Two types of behavioral change are often identified in the study of human development: those that are gradual or *continuous* and those that are sudden or *discontinuous*.

To understand this distinction, consider the following example suggested by the work of Jean Piaget (whose theory of cognitive development is discussed in Chapter 6). An experimenter begins by showing to a 4-year-old child two short, wide glass beakers, each containing the same quantity of milk. The youngster is asked whether both beakers have an equal amount of fluid, and agrees that they do. Then, while the child watches, the experimenter pours the entire contents of one of these beakers into a third beaker—a tall, thin one. When the child is asked to compare the two beakers that now contain milk, he or she often will say that the tall, thin beaker has more milk in it than the original short, wide one. Older children, like adults, will immediately point out that the two beakers in question must have the same amount of milk, for the volume of the two original beakers was equal at the beginning and no liquid was lost or gained by pouring the contents of one of them into a container of a different shape.

How and why does this transition in handling the problem occur? Is there a qualitative change or *discontinuity* from one mode of thinking to another as the child grows older? Or would the change, if we were able to watch it more closely, appear to be a gradual, *continuous* process of growing sophistication? The former viewpoint leads to the suggestion that development proceeds in a series of relatively discrete *stages* that should be identified and described. As we shall see, this is the conclusion that, with some qualifications, Piaget reached in examining the child's intellectual development. Some stage theorists have also argued that many aspects of human emotional and social development proceed in the same discontinuous fashion.

Other theorists have emphasized the possibility that development may only seem discontinuous. Observers who compare children of different ages may be unable to detect gradual changes as they occur, and thus may take large or dramatic shifts as evidence of discontinuity. Even if the same children are observed over time, the frequency and nature of

7 the observations can play an important role in determining whether developmental changes seem gradual or relatively abrupt.

The Role of Theory

The continuity-discontinuity issue involves much more than measurement or timing. Major questions revolve around the processes through which change occurs. Stage theorists often insist that universal, biologically based factors play a prominent role in development. Relatively uniform structural changes, they argue, occur in the psychological processes of almost all children and give rise to relatively discontinuous changes in behavior. In contrast, theorists who emphasize continuities stress that social and experiential factors underlie many changes. Children, they point out, must *learn* to behave as they do. The learning is likely to be a gradual, continuous process that will vary from one child to another depending on individual differences in socioeconomic, ethnic, and cultural background, as well as other factors.

THE ROLE OF THEORY

Even in our brief discussion thus far, it has been impossible to avoid the word "theory." What functions do theories serve in developmental psychology? Let's see.

Theories always serve an explanatory-descriptive role. They provide a basis for organizing and condensing known facts. They also should enable us to predict future events. To do so, a theory must be *testable* and thus potentially *capable of being proved wrong*. It must lead to the derivation of specific hypotheses or predictions that can be confirmed or disconfirmed. Theories also guide research into areas that might not otherwise attract interest or that might seem too complicated. Like a prospector's map of secret treasure, they lead us to expect substantial yields in areas that would otherwise seem to have little promise.

Modern developmental research has for the most part been guided by four broad formal theories, and each merits a brief introduction here.

Maturational Theory

A scholarly analysis of the impact of theories of child development (Caldwell and Richmond, 1962) labels "maturational theory" as one of the major theories in developmental psychology. The idea behind this theory is that most of the changes that take place in children over time occur because of a specific and prearranged scheme or plan within the body. Maturation, according to this view, reveals the natural unfolding of the plan, and patterns of growth charted over time are like the trail of a skywriting plane, which shows us only that part of the mission that is already completed.

The view that all development, from infant nursing patterns to the emergence of moral values, is largely self-regulated by the unfolding of natural processes and biological plans was popularized by Arnold Gesell (1940, 1956). Gesell himself studied primarily children's physical and motor development. His work generated major interest but only minor controversy. Almost everyone was willing to agree that body growth is heavily influenced by physical maturation. But the maturational view of